45

69

- Q represents carboxy, alkoxycarbonyl, tetrazolyl, or a group represented by the formula (22), and R¹⁰ represents amino, monoalkylamino, dialkylamino, hydroxy, optionally substituted alkyl, optionally substituted aryl, optionally substituted aryl, optionally substituted aryloxy, or optionally substituted feterocyclic group, and the substituents of alkyl, aryl, aryloxy or heterocyclic group are the same or different and 1 to 3 substituents selected from the group consisting of halogen, alkyl, haloalkyl, arylalkyl, alkoxy, alkylthio, alkoxyalkyl, alkylsulfonyl, hydroxy, amino, monoalkylamino, dialkylamino, carboxy, cyano and nitro.
- 3. The pharmaceutical composition according to claim 1, wherein, in the formula (1), R^1 and R^2 are the same or different and each represents optionally substituted phenyl, 15 and the substituents are the same or different and 1 to 3 substituents are selected from the group consisting of halogen, alkyl and alkoxy,

Y is N, and Z is CH,

- A represents NR⁷, and R⁷ represents hydrogen or alkyl, 20
- D represents alkylene,
- E represents single bond,
- G represents O,
- R³ and R⁴ are the same or different and each represents hydrogen or alkyl,
- Q represents carboxy, tetrazolyl, or a group represented by the formula (22), and R¹⁰ represents amino, monoalkylamino, dialkylamino, hydroxy, optionally substituted alkyl, optionally substituted aryloxy, or optionally substituted heterocyclic group, and the substituents of alkyl, aryl, aryloxy or heterocyclic group are the same or different and 1 to 3 substituents are selected from the group consisting of halogen, alkyl, haloalkyl, arylalkyl, alkoxy, alkylthio, alkoxyalkyl, alkylsulfonyl, hydroxy, amino, monoalkylamino, dialkylamino, carboxy, cyano and nitro.
- **4**. The pharmaceutical composition according to claim **1**, wherein, in the formula (1), R^1 and R^2 are the same or different and each represents optionally substituted phenyl, and the substituents are the same or different and 1 to 3 40 substituents are selected from the group consisting of halogen, alkyl and alkoxy,
 - Y represents N, and Z represents CH,
 - A represents NR⁷, and R⁷ represents alkyl,
 - D represents alkylene,
 - E represents single bond,
 - G represents O,
 - R³ and R⁴ are the same or different and each represents hydrogen or alkyl, and
 - Q represents carboxy or a group represented by the 50 formula (22), and R¹⁰ represents amino monoalky-lamino, dialkylamino, hydroxy, optionally substituted alkyl, optionally substituted aryloxy or optionally substituted heterocyclic group, and the substituents of alkyl, aryl, aryloxy or heterocyclic group are the same or different and 1 to 3 substituents are selected from the group consisting of halogen, alkyl, haloalkyl, arylalkyl, alkoxy, alkylthio, alkoxyalkyl, alkylsulfonyl, hydroxy, amino, monoalkylamino, dialkylamino, carboxy, cyano and nitro.
- **5**. The pharmaceutical composition according to claim **1**, wherein the hetero cyclic compound is selected from the group consisting of the following compounds (1) to (27):
 - (1) 2-{4-[N-(5,6-di-p-tolylpyrazin-2-yl)-N-methylamino] butyloxy}acetic acid,
 - (2) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-methylamino] butyloxy}acetic acid,

70

- (3) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino]butyloxy}acetic acid,
- (4) 2-{4-[N-(5,6-di-p-tolylpyrazin-2-yl)-N-isopropy-lamino]butyloxy}acetic acid,
- (5) 2,3-diphenyl-5-{N-[4-(carboxymethoxy)butyl]-N-methylamino}pyrazine 1-oxide,
- (6) 7-[N-(5,6-diphenylpyrazin-2-yl)-N-methylamino] heptanoic acid,
- (7) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino]butylthio}acetic acid,
- (8) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-methylamino]-(Z)-2-buten-1-yloxy}acetic acid,
- (9) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-ethylamino] butyloxy}acetic acid,
- (10) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino|butylsulfinyl}acetic acid,
- (11) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropy-lamino|butyloxy}-N-(p-toluenesulfonyl)acetamide,
- (12) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropy-lamino]butyloxy}-N-(isopropylsulfonyl)acetamide,
- (13) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropy-lamino]butyloxy}-N-(trifluoromethanesulfonyl)acetamide,
- (14) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino]butyloxy}-N-(o-toluenesulfonyl)acetamide,
- (15) N-(benzenesulfonyl)-2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino]butyloxy}acetamide,
- (16) N-(4-chlorobenzenesulfonyl)-2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino] butyloxy}acetamide,
- (17) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino]butyloxy}-N-(4-methoxybenzenesulfonyl)acetamide,
- (18) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropy-lamino]butyloxy}-N-(4-fluorobenzenesulfonyl)acetamide,
- (19) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino]butyloxy}-N-(2-thiophenesulfonyl)acetamide,
- (20) N-(aminosulfonyl)-2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino]butyloxy}acetamide,
- (21) N-(N,N-dimethylaminosulfonyl)-2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino] butyloxy}acetamide,
- (22) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropy-lamino]butyloxy}-N-(morpholin-4-ylsulfonyl)acetamide.
- (23) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino]butyloxy}-N-(pyrrolidin-1-ylsulfonyl)acetamide.
- (24) N-[2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropy-lamino]butyloxy}acetyl]sulfamic acid phenyl ester,
- (25) N-[2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropy-lamino]butyloxy}acetyl]sulfamic acid,
- (26) N-[2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropy-lamino]butyloxy}acetyl]sulfamic acid sodium salt, and
- (27) 2-{4-[N-(5,6-diphenylpyrazin-2-yl)-N-isopropylamino]butyloxy}-N-(methylsulfonyl)acetamide.
- **6**. A method of inhibiting platelet aggregation, comprising administering to a subject in need thereof an effective amount of a pharmaceutical composition according to claim **1**.
- 7. A method of treating arteriosclerosis obliterans, comprising administering to a subject in need thereof an effective amount of a pharmaceutical composition according to claim 1.